

ABSTRACT OF THE DISCLOSURE

A method, apparatus, and system is described for displaying a message to a golfer on a golf course. The system includes a number of GPS receivers attached to carts (or handheld) which display golf information and/or messages. The GPS receiver includes a display which can show the distance to the golf cup or other feature on a golf hole. The display can show a message, such as an advertising message, to the golfer. The message is shown at convenient, nonintrusive times. For example, such messages are shown at predetermined locations on the golf course such as before the first hole, after the last hole, or between holes. Additionally, such messages can be displayed using location information to determine if the receiver is moving or stopped. Finally, such messages may be displayed based on the activity of the golfer, such as scorecard input or refreshment ordering. In a preferred form, a pen input display capable of graphics is used. The system also includes a pro shop monitor where the location of each GPS receiver is shown on the golf course. The pro shop can send messages to all receivers or individual receivers.

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We Claim:

1. A method for displaying a message to a golfer on a golf course using the global positioning satellite system comprising the steps of:
positioning a remote global positioning satellite receiver on the golf course;
determining a position of the remote receiver on the golf course using the global positioning satellite system; and
displaying the message to the golfer at predetermined locations based on the position of the remote receiver.
2. The method of claim 1, said message comprising an advertising message to the golfer.
3. The method of claim 1, including the step of determining if the remote receiver is moving using said position and displaying said message when the remote receiver is moving.
4. The method of claim 3, the step of determining if the remote receiver is moving including the substeps of determining another position of the remote receiver and comparing said position and said other position to determine if the remote receiver is moving.
5. The method of claim 1, said message comprising a graphic depiction.
6. The method of claim 1, the displaying step including displaying a golf hole layout on said golf course at other locations on the golf course.
7. The method of claim 1, the displaying step including displaying golf information in addition to said message at other locations on the golf course.
8. The method of claim 7, said golf information comprising a scorecard and said message comprising an advertising message.
9. The method of claim 7, said golf information comprising a refreshment order page and said message comprising an advertising message.

10. The method of claim 1, including the step of determining the approximate distance of a golf ball to a feature on the golf course including the substeps of storing the location of the feature in a database, positioning the remote receiver proximate to a golf ball, and determining the distance between said stored feature location and said remote receiver position.
11. The method of claim 1, including the step of determining an error correction for the global positioning satellite system comprising the substeps of -
 - positioning a global positioning satellite receiver at a reference location having a known position,
 - determining the apparent position of the reference location using the receiver, and
 - calculating an error correction based on the apparent position and the known position of the reference location.
12. An apparatus for displaying a message to a golfer on a golf course using the global positioning satellite system comprising:
 - a global positioning receiver means for receiving signals indicative of the apparent position of the receiver means using the global positioning satellite system and positionable on the golf course;
 - means linked to said global positioning receiver means for determining the position of the receiver means on the golf course; and
 - display means for displaying the message to the golfer.
13. The apparatus of claim 12, said display means being operable for displaying a graphic representation of said message.
14. The apparatus of claim 13, said display means including digitizer means overlaying said graphic representation and a pen operable for providing inputs to said display means.
15. The apparatus of claim 12, said display means being operable for displaying a graphic representation of a golf hole to the golfer.

16. The apparatus of claim 12, said apparatus including memory means for storing different advertising messages and means for displaying different messages at different positions of the receiver means on the golf course.
17. The apparatus of claim 12, including means for communicating messages to the display.
18. The apparatus of claim 12, said display being connected to the global positioning receiver means for displaying the message at predetermined positions of the receiver means on the golf course.
19. The apparatus of claim 12, said display being operable for displaying the message based on the activity of the golfer.
20. The apparatus of claim 10, wherein said activity is a golf score input.